

What is claimed:

1. A piston ring, containing a contact surface (3) provided with a contact surface profile (4) as well as an upper and a lower side surface (8), in which at least the contact surface (3) is supplied with a vapor deposition coating (2), in such a way that a partial area of the contact surface (3) is supplied with a removable cover (6), so that after fabrication of the vapor deposition coating (2) and removal of the cover (6) an essentially sharp-edged contact surface edge (9) is formed between the contact surface (3) and at least one of the side surfaces (8).
2. A piston ring, according to claim 1 wherein the contact surface profile (4) is formed by a chambering, where in the area of at least one of the remaining cross members (5) a removable cover (6) is provided.
3. A piston ring, according to claim 1 wherein the contact surface profile (4) is formed by means of a partially conical as well as an adjacent cylindrically shaped area, in which in the cylindrical area the removable cover (6) is provided.
4. A piston ring, according to claim 1 wherein the contact surface profile (4) is formed by means of at least one groove, in which at least one of the cross members (5) is supplied with the removable cover (6).
5. A piston ring, according to claims 1 through 4 wherein the removable cover (6) is formed as a single piece out of the base material.
6. A piston ring, according to claims 1 through 4 wherein the removable cover (6) is formed by means of bands or strips.

7. A piston ring, according to claims 1 through 6 wherein the vapor deposition coating (2) is applied through a PVD or CVD process in thicknesses between 5 μm and 70 μm .
8. A piston ring, according to claims 1 through 7 wherein at least one of the sides of the ring (8) is supplied with a galvanized layer (12).
9. A piston ring, according to claims 1 through 8 wherein the galvanized layer (12) is chrome based.
10. A piston ring, according to claims 1 through 9 with a base material of steel or cast iron.
11. A piston ring, according to claims 1 through 10, wherein the vapor deposition layer (2) can be created on the basis of Cr and N.
12. A piston ring, according to claims 1 through 11 wherein the contact surface profile (4) is supplied with at least one undercut (11) so that between the cross member (5) and the vapor deposition coating (2) an oil retaining reservoir is formed.
13. A piston ring, according to claims 1 through 12 wherein the contact surface profile (4) is built in such a way that a porous transitional area is produced between the cross member (5) and the vapor deposition coating (2).
14. A piston ring, according to claims 1 through 13 wherein the sharp-edged contact surface edge (9) is provided between the contact surface (3) and the lower side surface (8).
15. A procedure for creation of a vapor deposition coating (2) on a contact surface (3) of a piston ring (1), provided with a contract surface profile (4),

in which a base member with a contact surface profile (4) is supplied with a cover (6) outside of the contact surface profile (4); the vapor deposition coating (2) is applied on the contact surface (3) and subsequently the cover (6) is removed, so that following the removal of the cover (6) an essentially sharp-edged contact surface edge (9) is formed between the contact surface (3) and at least one of the side surfaces (8) of the base member.

16. A method, according to claim 15 wherein the vapor deposition coating (2) is created by a PVD or CVD process.
17. A method, according to claim 15 or 16 wherein the base member in the area of at least one of the side surfaces (8) is supplied with a galvanized layer (12).
18. A method, according to claims 15 through 17 wherein the vapor deposition coating (2) is created based on Cr and N, in a layer thickness between 5 and 70 μm .
19. A method, according to claims 15 to 18 wherein the contact surface profile (4) is constructed in such a way that by the application of the vapor deposition layer (2) porous transitional areas are formed.
20. A method, according to claims 15 to 19 wherein the contact surface profile (4) is constructed in such a way that by the application of the vapor deposition layer (2), under cuts (11) for the creation of a oil-retaining reservoir are formed.

Fig.1

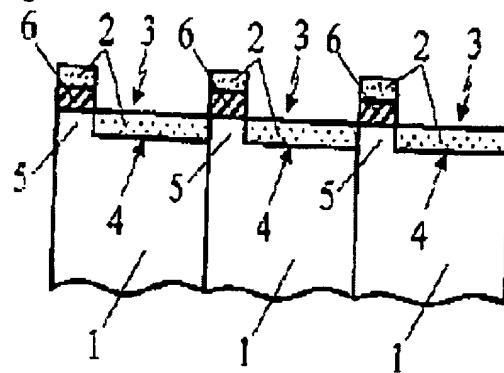


Fig.2a

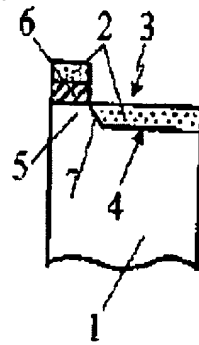


Fig.2b

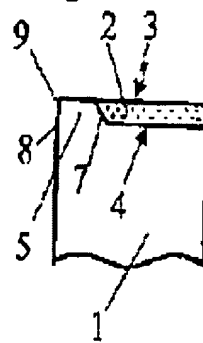


Fig.3a

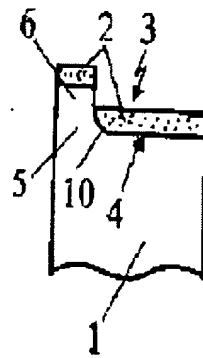


Fig.3b

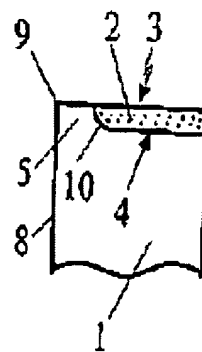


Fig.4a

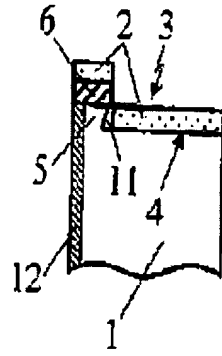


Fig.4b

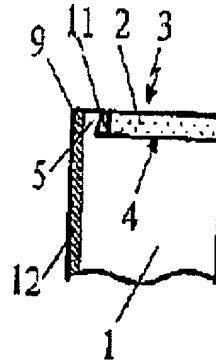


Fig.5a

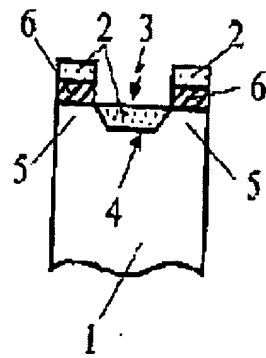


Fig.5b

